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Michael Harris

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EXAMINER

EMPIE, NATHAN H

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PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,359	<b>Applicant(s)</b> HARRIS ET AL.	
	<b>Examiner</b> NATHAN H. EMPIE	<b>Art Unit</b> 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Examiner acknowledges receipt of 1/3/11 amendment to the claims which was entered into the file. Claims 1-10 are currently pending examination, claim 11 was previously withdrawn.

### ***Election/Restrictions***

This application contains claim 11 drawn to an invention nonelected with traverse in the reply filed on 7/19/10. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6, 8, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 6 recites the limitation "re-suction". There is insufficient antecedent basis for this limitation in these claims. The term re-suction would suggest that suction was being conducted prior, but nowhere in claim 1 from which claim 6 depends does a limitation directed to a functional recitation of suctioning exist. For purposes of examination the term "re-suction" is being interpreted as "suction".
4. Claim 8 recites the limitation "the carrier". There is insufficient antecedent basis for this limitation in the claim. As nowhere prior in claims 1 or 7 from which claim 8

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depends is there a recitation to “a carrier”, based on claim 1 and applicant’s specification the carrier appears to reference the claimed “body”, so for purposes of examination “the carrier” will be interpreted as “the body”.

5. The other dependent claims do not cure the defects of the claims from which they depend.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiessling et al (US 2003/0044250; hereafter Kiessling) in view of Hoyer et al (US patent 3,959,520; hereafter Hoyer).

8. Claim 1: Kiessling teaches a method for coating open-pored bodies (such as porous honeycomb cylinder structures (10)) with at least one coating suspension (80) including, in particular, solids (finely divided high surface area materials such as aluminum oxides) and solutes (soluble precursors) in a liquid medium (liquid phase), in a quantity in wet state which is to correspond to at least a required target quantity (target take-up) (see, for example, abstract, [0006], [0018-0024], and Fig 1-3),

9. wherein the coating operation includes a variation in the applied wet coating quantity from one body to the other (see, for example, [0055], and fig 3 wherein undesired blockages / excess wet coating if observed; alternately intrinsic to all

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processes is some degree or variability), the method being characterized by the steps of:

10. (a) coating a body with an actual quantity of the coating suspension (filling amount), which is always larger than the required target quantity (target take-up) taking the variation of the coating operation into account (see, for example, [0035-0041], Fig 2, 3, and 5),
11. (b) determining the difference between the actual quantity (filling amount) and the required target quantity (see, for example, [0040] filling amount= 750 g, target take up =200g), and
12. (c) reducing the difference between actual quantity and target quantity by removing still wet coating suspension by suction (by reversing pump / pumping out, and/or subsequent suctioning) (see, for example, [0042], [0049], [0055], fig 2, 3, and 5).
13. Kiessling has taught the method of claim 1 (described above), wherein Kiessling has further taught that the actual quantity of coating material applied in a calculated and controlled manner using sensors and metering equipment (see, for example, [0040-0041]), but Kiessling does not explicitly teach such equipment include weighing each body before and after coating. Hoyer teaches a method of coating open-pored honeycomb structures (see, for example, abstract, col 1 lines 1 – 29, col 2 line 66 – col 3 line 30). Hoyer further teaches that incorporating weighing steps before and after each coating process operation for each sample will aid in determined the exact amount of coating being maintained in each body, and further such actions will aid sample uniformity and quality control (see, for example, col 3 line 31 – col 4 line 37). Therefore

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it would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated determining the actual quantity by weighing each body before and after each coating process operation into the method of Kiessling as such an incorporation would improve sample quality control and ultimately sample uniformity.

14. Claim 2: Kiessling further teaches wherein steps (a) to (c) are followed by drying and calcination of the applied coating suspension (see, for example, [0043]).

15. Claim 3: Kiessling further teaches, wherein step (c) includes reducing the difference between actual quantity and target quantity by suction from one end of the body using an intensity (power) and/or duration matched with the magnitude of the differential quantity (see, for example, [0050], [0055], and Fig 3 and 5; wherein it is taught that the required power and duration to achieve target take-up can be readily determined by a person skilled in the art in a few preliminary trials, and such a power and duration is applied).

16. Claim 6: Kiessling further teaches reducing the difference between actual quantity and target quantity by removing still wet coating suspension by suction (by reversing pump / pumping out, and/or subsequent suctioning / re-suctioning) (see, for example, [0042], [0049], [0055], fig 2, 3, and 5).

17. Claim 9: Kiessling has taught wherein a difference between the actual quantity (filling amount) and the required target quantity (see, for example, [0040] filling amount= 750 g, target take up =200g) exists and subsequently the reduction process of step c is performed (refer to rejection of claim 1 above).

18.

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19. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiessling in view of Hoyer as applied to claim 3 above, and further in view of Sulc (US Patent 6,487,869; hereafter Sulc).

20. Claim 4: Kiessling in view of Hoyer teaches the method of claim 3 (described above), wherein Kiessling further explicitly teaches that "The power of the blowing out or suctioning processes and the duration of these processes until target take-up is achieved can be determined by a person skilled in the art in a few preliminary trials" (see, for example, [0055]). But Kiessling is silent as to the specifics of the testing so it does not explicitly teach wherein intensity and/or duration of suction are selected from tables of values for the measured actual quantity established in preliminary tests. Sulc teaches a method of determining intensities / duration of process variables required to generate a specific response (see, for example, abstract, col 5 lines 9 - 27). Sulc further teaches that it is well known in the art to use tables to look up appropriate levels at which to control process variables to achieve a desired outcome (see, for example, col 5 lines 9-27). As both Sulc and Kiessling in view of Hoyer are directed to methods of regulating processing variables to achieve a desired response, it would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated using tables of values for the measured actual quantity from the taught preliminary trials to look up appropriate intensity and/or duration of suction; as such look-up tables are well known in the art, and further predictably provide a direction as to appropriate values to use to generate a desired result based on the current condition of the body.

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21. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiessling in view of Hoyer and Sulc as applied to claim 4 above, and further in view of Williams (US patent 6,594,542; hereafter Williams).

22. Claim 5: Kiessling in view of Hoyer and Sulc teaches the method of claim 4 (described above) wherein the prior art have taught regulating the duration and / or intensity of suction in accordance to values for the actual quantity determined from prior trials to reduce the difference between actual and target coating amounts (described in rejection of claim 4 above), but none explicitly teaches that the prior trials include data gathered / determined for bodies coated immediately before the current body. Williams teaches a method of controlling the coating / removal process of articles including the incorporation of quality control methods (see, for example, abstract, col 4 line 62 - col 5 line 7). Williams further teaches processes are known to fluctuate with time, and that measurements gathered from directly previous processed samples can be used to determine adjusted processing conditions for a next subsequent sample to be processed to aid in combating these fluctuations (see, for example, col 4 line 62 - col 5 line 7). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated data collected from bodies coated immediately before the current into the data used to determine the current processing conditions as such information would improve process outcome by combating processing fluctuations occurring with the passage of time.



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23. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiessling in view of Hoyer as applied to claim 1 above, and further in view of Kiessling et al (US 2001/0024686; hereafter KiesslingB)

24. Claim 7: Kiessling in view of Hoyer teaches the method of claim 1 (described above) wherein Kiessling has taught a method of removing excess / blockages of coating suspension by using suction (see, for example, [004] and [0055]); and Hoyer has taught that between each coating process operation (such as between emptying and after subsequent suctioning) the sample is weighed to determine the actual / excess coating amount. But Kiessling in view of Hoyer do not explicitly teach wherein the determining and reducing steps of claim 1 are run at least twice until the actual quantity is within a previously specified tolerance range above the target quantity. KiesslingB similarly teaches a method for coating open-pored bodies (such as porous honeycomb cylinder structures (10)) with at least one coating suspension (80) (see, for example, abstract, [0006], [0020-0023], and Fig 1-3). KiesslingB further teaches that flow channels containing clogs or excess coating can similarly have suction applied thereto to remove the excess, and that such removal processes can be performed repeatedly until the desired coating level is achieved (see, for example, [0036]). As both KiesslingB and Kiessling in view of Hoyer have taught methods for coating open-pored honeycomb bodies with a coating suspension and subsequently applying suction to remove excess / blockages of coating solution from the channels, it would have been obvious to one of ordinary skill in the art at the time of invention to have repeated the excess removal process at least twice in order to achieve the predictable result of

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removing the excess from the channels to desirable levels when excesses remain following previous processing. By incorporation of additional suctioning steps, additional weighing steps to determine the excess would be conducted according to the teaching of Hoyer as such re-suctioning steps would be considered steps within the overall coating process operation.

25. Claim 10: Kiessling has taught wherein a difference between the actual quantity (filling amount) and the required target quantity (see, for example, [0040] filling amount= 750 g, target take up =200g) exists and subsequently the reduction process of step c is performed (refer to rejection of claim 1 above).

26. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiessling in view of Hoyer and KiesslingB as applied to claim 7 above, and further in view of Reed et al (US patent 4,208,454; hereafter Reed).

27. Claim 8: Kiessling in view of Hoyer and KiesslingB teaches the method of claim 7 (described above), but none explicitly teach wherein suction is applied to mutually opposite ends of the body during the second run. Reed teaches a method of coating monolithic catalyst supports with a catalyst composition comprising coating the body in excess and subsequently removed said excess via suction / re-suction to achieve a desired coating amount (See, for example, abstract, col 2 lines 35-59. col 4 line 47- col 5 line 18). Reed further teaches that during removal processes (purging) that it is beneficial to invert the body and purge from the opposite end, as such a step will improve the uniformity of coating distribution (see, for example, col 4 line 47- col 5 line

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18 and col 6 lines 18-37). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have incorporated applying suction to mutually opposite ends of the body during the second run process of Kiessling in view of Hoyer and KiesslingB as Reed has taught that such an incorporation will improve the uniformity of the coating distribution.

### ***Double Patenting***

28. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

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be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

29. Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 11/665591. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the copending application are of sufficient specificity that the slight deviations between the claims are well within the level of one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

30. Applicant's arguments that the references do not teach the newly added limitations are unconvincing in view of newly-incorporated Hoyer into the rejection of claim 1, as discussed in the rejections above.

31. In response to applicant's argument that "Kiessling is not in the same technical field as the current claims and one skilled in the art would not refer to is as the Examiner does" (pg 7 of remarks) it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as

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a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Kiessling satisfies both. Consider first the titles of Kiessling ("Process for Coating a Carrier Structure") and of the current application ("Method and Apparatus for coating a carrier"), Kiessling is directly related to coating the same exact types of "carriers" (such as honeycomb type catalytic converters), and the application of coatings has been applied in considerably similar methods as described above to apply uniform coatings to such bodies. The Applicant has failed to provide and specifics to support their assertion, the examiner asserts that the arguments of counsel cannot take the place of evidence in the record. In *re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965).

32. In response to applicant's argument that Sulc is nonanalogous art (remote art) (pg 7-8 of remarks), it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Sulc is reasonably pertinent to a particular problem with which the applicant was concerned, namely how to improve the quality control of a process by tracking and correlating processing conditions which yield desired results. The teaching of Sulc demonstrates that it is well known in the art to use look up tables to determine and apply appropriate control variables to achieve the desired outcome. As such Sulc is analogous art and is properly relied upon.

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33. In response to applicant's arguments against the references individually, ("Hoyer employs weighing to determine deviations from the desired amount of coating applied to the carrier shows no remedy other than separating the off-specification coated carriers", "the equipment for coating disclosed in Hoyer is not suitable to perform the method according to the invention" (pg 8 of remarks)) one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further in response to applicant's argument that "the equipment for coating disclosed in Hoyer is not suitable to perform the method according to the invention" (pg 8 of remarks), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Kiessling in view of Hoyer have disclosed a method of applying an excess coating to bodies, comprising pre / post weighing and removing excessive coating from the bodies according to a target quantity. The examiner has relied upon Hoyer for its teaching that incorporating weighing steps before and after each coating process operation for each sample will aid in determined the exact amount of coating being maintained in each body, and further such actions will aid sample uniformity and quality control (see, for example, col 3 line 31 – col 4 line 37). The examiner has not incorporated nor relied upon "the equipment

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for coating” or the equipment for “removal of excess” described by Hoyer, the claims place no specific limitations on the equipment used, but rather are to a method for coating, not an apparatus. The functional steps of coating the body and removing excess have been taught by primary reference Kiessling. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

34. As applicant has made no substantive arguments against the provisional double patenting rejections, these rejections have been maintained.

35. As to the dependent claims, they remain rejected as no separate arguments are provided.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN H. EMPIE whose telephone number is (571)270-1886. The examiner can normally be reached on M-F, 6:45- 4:15 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571) 272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. H. E./  
Examiner, Art Unit 1712

/Michael Cleveland/  
Supervisory Patent Examiner, Art Unit 1712